Clarion

SERVICE MANUAL

Closer Relations through "CLARION SERVICE MANUAL"

MODEL G-80A (GA-503E)

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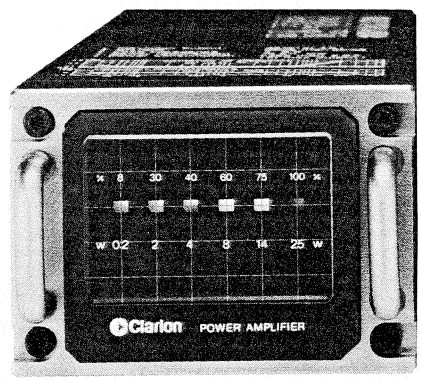


■ SPECIFICATIONS:

Circuit system:	B.T.L. (Balanced, transformerless) circuit
Maximum output:	25W (Typ.)
Rated output:	12W (at 1kHz, less than 1% distortion, $R_L = 4\Omega$)
Frequency response:	20Hz–30kHz (±3dB 1kHz 0dB=2.45V)
S/N ratio:	More than 75dB
Input impedance:	25kΩ
Rated input:	100mV (at 12W output)
Semiconductors:	1 IC, 18 transistors, 6 diodes
Output impedance:	4Ω or 8Ω
Rated power voltage:	14V ⊖ ground (10.8V to 15.6V)
Current consumption:	Less than 2.5A (at maximum output)
Weight:	0.6kg
Dimensions:	Width 70mm Depth 150mm Height 50mm

■ COMPONENTS:

GA-503E-51

Main unit		1
Documents bag		1
Mounting bracket	300-4976-00	1
Mounting bracket	300-5700-00	1
Accessories bag		1
Joint bracket	330-6370-00	2
Tap screw (M5×16)	700-5016-10	3
Plate nut	725-0181-00	3
Tap tight (M3×6)	731-3006-89	3
Double sems hex. bolt (M5×10)	734-5010-31	3
Flat washer(M5)	740-5000-10	3

Printed in Japan 298-2503-00 G-80A

■ ADJUSTMENTS:

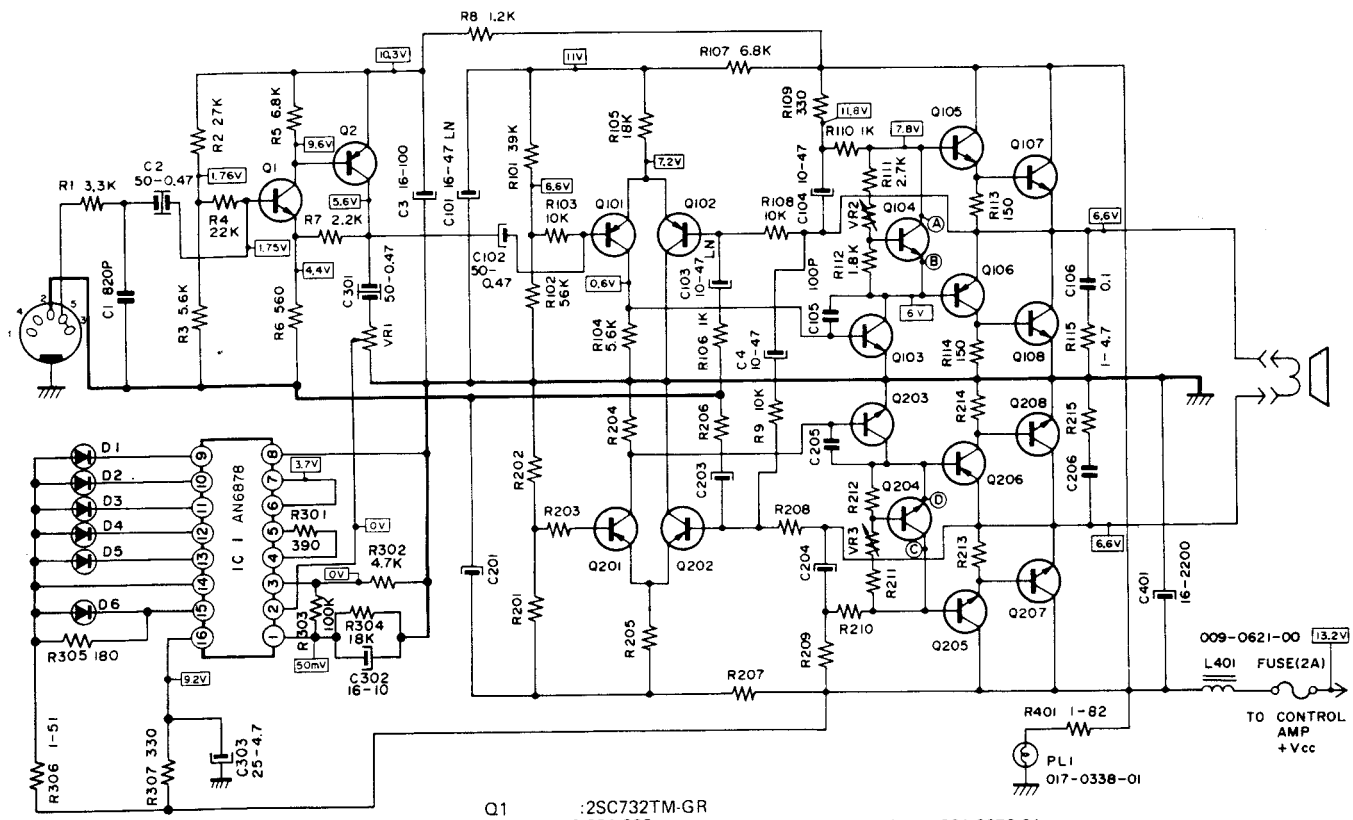
A. Idle Current Adjustment

1. Perform adjustment with the set alone, without load and with the input open.
2. Remove the upper cover and remove the 9P display unit (escutcheon) connector.
3. Short-circuit the collector pattern Ⓐ and the emitter pattern Ⓑ of Q104.
4. Adjust VR3 so that the current consumed by the set is 80 ± 10 mA.
5. Open-circuit Ⓐ and Ⓑ, then short-circuit the collector pattern Ⓒ and the emitter pattern Ⓓ of Q204.
6. Adjust VR2 so that the current consumed by the set is 80 ± 10 mA.

B. Indicator Sensitivity Adjustment

1. Adjust the level of the input signal (1 kHz) so that the output level is 3.5 V (with 4 Ω load).
2. Adjust VR1 so that the LED indicating 100% −25 W lights.

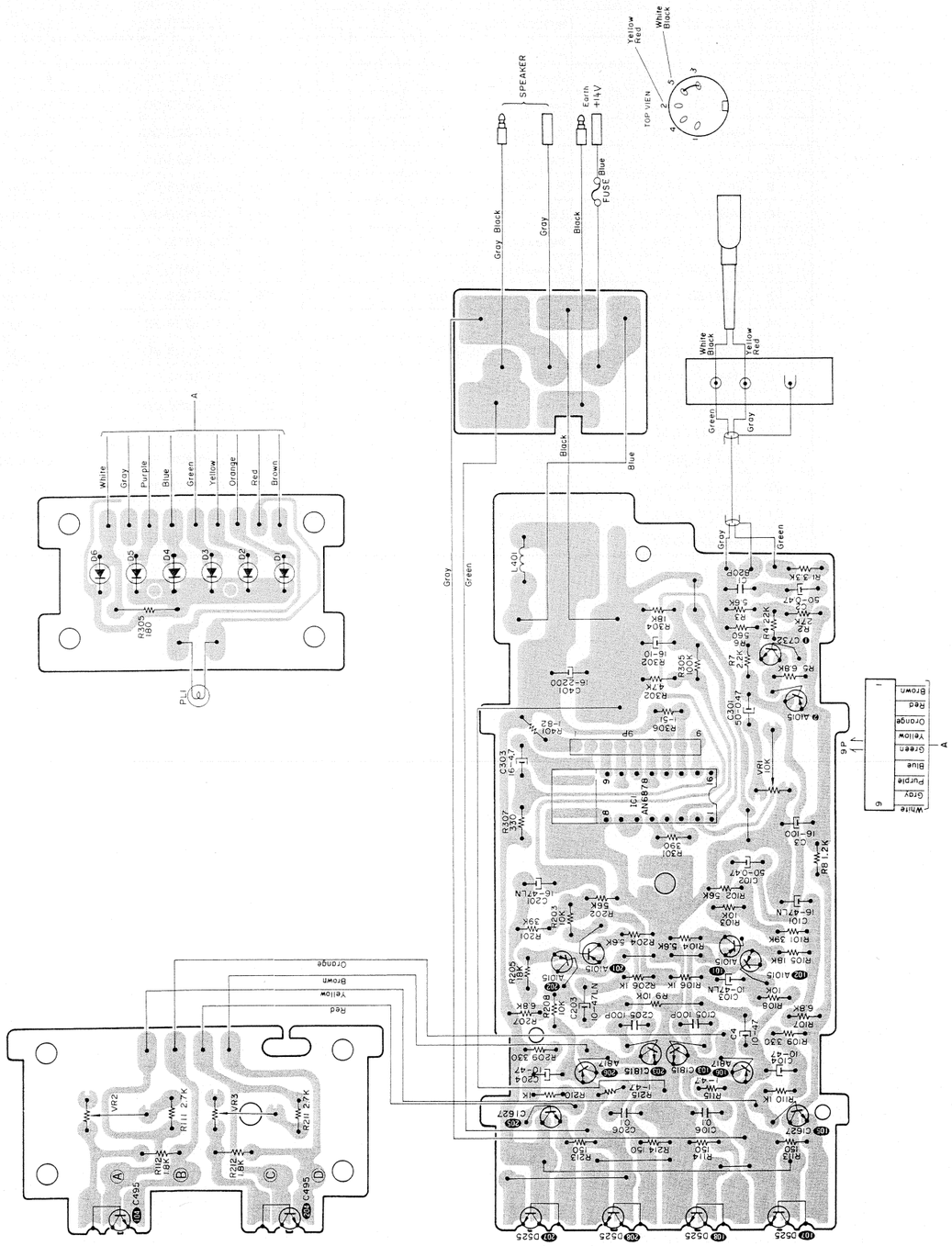
■ CIRCUIT DIAGRAM:



Q1	:2SC732TM-GR
Q2,101,102,201,202	:2SA1015-Y
Q103,203	:2SC1815-GR
Q104,204	:2SC495-Y,O
Q105,205	:2SC1627-Y,O
Q106,206	:2SA817-Y,O
Q107,108,207,208	:2SD525-O,Y

D1~D3	:001-0273-01
D4~D5	:001-0273-02
D6	:001-0273-00
C401	:042-0242-00
VR1	:012-2740-00
VR2,VR3	:012-3286-00

■ PRINTED WIRING BOARD:

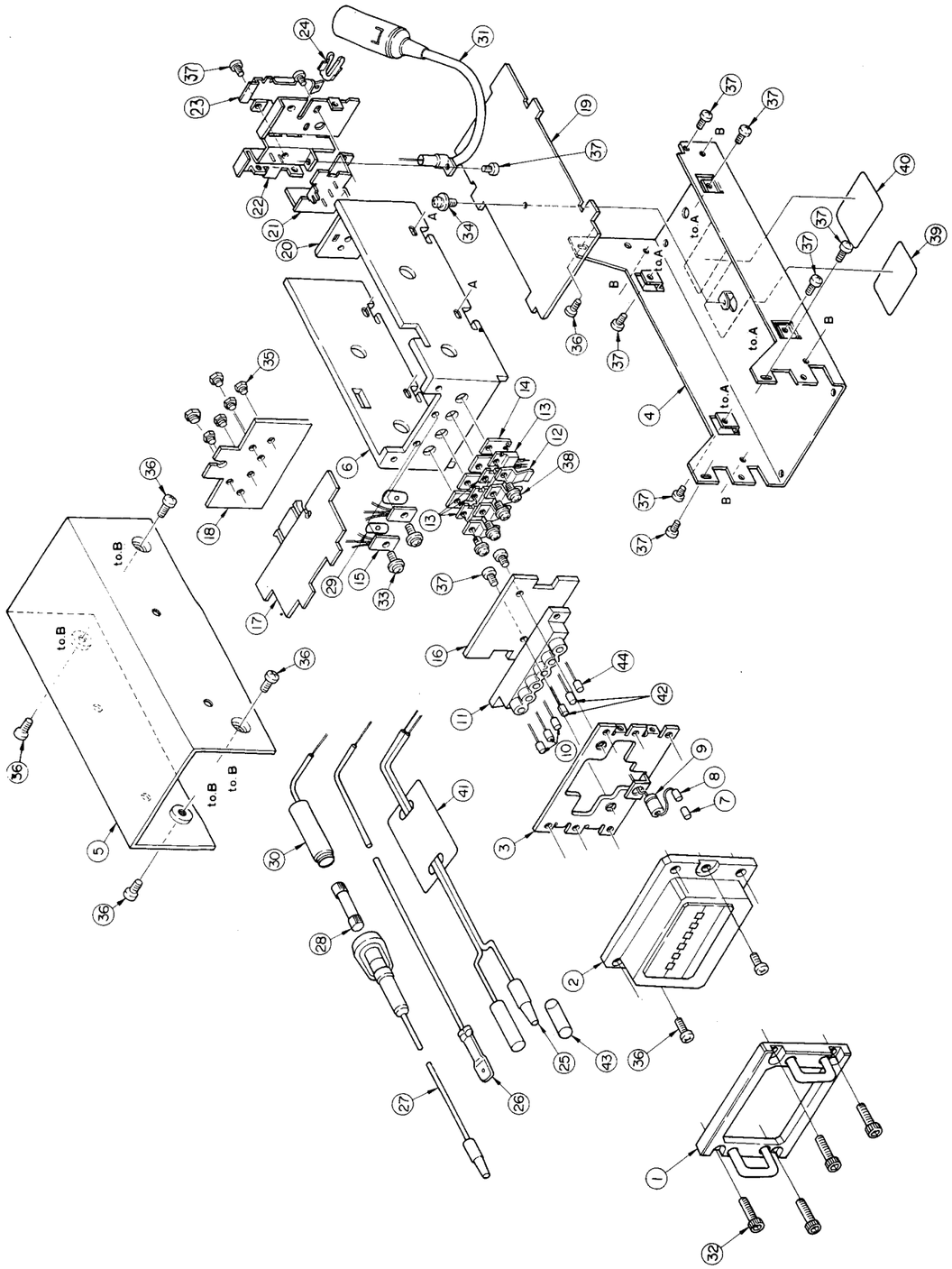


■ ELECTRICAL SECTION PARTS LIST:

Ref. No.	Part No. (Order No.)	Description	Q'ty
D6	001-0273-00	Diode (Red)	1
D1,2,3	001-0273-01	Diode (Green)	3
D4,5	001-0273-02	Diode (Amber)	2
L401	009-0621-00	Choke	1
VR1	012-2740-00	Variable resistor (10kΩ)	1
VR2,3	012-3286-00	Variable resistor (1kΩ)	2
PL1	017-0338-01	Pilot lamp	1
C401	042-0242-00	Electrolytic capacitor (16V 2200μF)	1
IC1	051-0331-00	IC (AN6878)	1
Q106,206	100-0817-15	Transistor (2SA817-0)	2
Q2,101,102 201,202	100-1015-25	Transistor (2SA1015Y)	5
Q104,204	102-0495-25	Transistor (2SC495Y)	2
Q1	102-0732-28	Transistor (2SC732GR)	1
Q105,205	102-1627-15	Transistor (2SC1627-0)	2
Q103,203	102-1815-28	Transistor (2SC1815GR)	2
Q107,108 207,208	103-0525-25	Transistor (2SD525Y)	4
R106,110,210	111-1021-11	Film resistor (1/8W 1kΩ)	3
R206	111-1021-22	Film resistor (1/4Ws 1kΩ)	1
R108,203,208	111-1031-11	Film resistor (1/8W 10kΩ)	3
R103	111-1031-22	Film resistor (1/4Ws 10kΩ)	1
R9	111-1031-33	Film resistor (1/4W 10kΩ)	1
R303	111-1041-22	Film resistor (1/4Ws 100kΩ)	1
R8	111-1221-11	Film resistor (1/8W 1.2kΩ)	1
R114,214	111-1511-11	Film resistor (1/8W 150Ω)	2
R113,213	111-1511-22	Film resistor (1/4Ws 150Ω)	2
R305	111-1811-21	Film resistor (1/4Ws 180Ω)	1
R112,212	111-1821-32	Film resistor (1/4W 1.8kΩ)	2
R105,205,304	111-1831-21	Film resistor (1/4Ws 18kΩ)	3
R7	111-2221-11	Film resistor (1/8W 2.2kΩ)	1
R4	111-2231-11	Film resistor (1/8W 22kΩ)	1

Ref. No.	Part No. (Order No.)	Description	Q'ty
R111,211	111-2721-32	Film resistor (1/4W 2.7kΩ)	2
R2	111-2731-11	Film resistor (1/8W 27kΩ)	1
R109,209	111-3311-11	Film resistor (1/8W 330Ω)	2
R307	111-3311-22	Film resistor (1/4Ws 330Ω)	1
R1	111-3321-11	Film resistor (1/8W 3.3kΩ)	1
R301	111-3911-22	Film resistor (1/4Ws 390Ω)	1
R101	111-3931-11	Film resistor (1/8W 39kΩ)	1
R201	111-3931-22	Film resistor (1/4Ws 39kΩ)	1
R302	111-4721-22	Film resistor (1/4Ws 4.7kΩ)	1
R6	111-5611-22	Film resistor (1/4Ws 560Ω)	1
R204	111-5621-11	Film resistor (1/8W 5.6kΩ)	1
R3,104	111-5621-22	Film resistor (1/4Ws 5.6kΩ)	2
R102	111-5631-11	Film resistor (1/8W 56kΩ)	1
R202	111-5631-22	Film resistor (1/4Ws 56kΩ)	1
R5,107,207	111-6821-11	Film resistor (1/8W 6.8kΩ)	3
R115,215	114-4791-52	Film resistor (1W 4.7Ω)	2
R306	114-5101-52	Film resistor (1W 51Ω)	1
R401	114-8201-52	Film resistor (1W 82Ω)	1
FUSE	120-0020-00	Fuse (2A)	1
C1	141-8212-10	Polyester capacitor (820pF)	1
C105,205	169-1012-05	Ceramic capacitor (100pF)	2
C106,206	173-1042-12	Polyester capacitor (50V 0.1μF)	2
C3	179-1073-32	Electrolytic capacitor (16V 100μF)	1
C4,104,204	179-4763-22	Electrolytic capacitor (10V 47μF)	3
C302	180-1064-32	Electrolytic capacitor (16V 10μF)	1
C2,102,301	180-4744-62	Electrolytic capacitor (50V 0.47μF)	3
C303	180-4754-42	Electrolytic capacitor (25V 4.7μF)	1
C103,203	181-4763-22	Electrolytic capacitor (10V 47μFLN)	2
C101,201	181-4763-32	Electrolytic capacitor (16V 47μFLN)	2

■ MAIN SECTION EXPLODED VIEW:



■ MAIN SECTION PARTS LIST:

Ref. No.	Part No. (Order No.)	Description	Q'ty
1	940-0208A	Escutcheon ass'y	1
2	940-0207A	Escutcheon ass'y	1
3	330-6679-00	Indicator bracket	1
4	311-0936-01	Lower case	1
5	310-0920-03	Upper case	1
6	313-1015-02	Heat sink	1
7	345-2830-03	P.L. cap	1
8	017-0338-01	Pilot lamp	1
9	345-3157-00	P.L. holder	1
10	001-0273-01	LED	3
11	335-1187-00	Indicator holder	1
12	079-0002-00	Transistor holder	4
13	103-0525-15	Transistor (2SD525)	4
14	078-0022-00	Insulator sheet	4
15	102-0495-25	Transistor (2SC495)	2
16	099-5837-00	PWB	1
17	099-5877-00	PWB	1
18	099-5343-00	PWB	1
19	099-5859-01	PWB	1
20	099-5219-00	PWB	1
21	944-0521-01	Filter ass'y	1
22	944-0523-02	Filter ass'y	1

Ref. No.	Part No. (Order No.)	Description	Q'ty
23	330-6552-01	Filter cover	1
24	335-0580-00	Lead holder	1
25	851-2209-00	Speaker lead	1
26	850-1978-00	A lead	1
27	850-1977-01	A lead	1
28	120-0020-00	Fuse (2A)	1
29	079-0021-00	Insulator sheet	1
30	850-1938-00	A lead	1
31	852-5808-01	Extension lead	1
32	716-0333-00	Decoration screw	4
33	735-3012-11	D-sems screw (M3 × 12)	2
34	735-3008-11	D-sems screw (M3 × 8)	1
35	725-0182-00	Plate nut (M3)	6
36	731-3006-89	Tap tight (M3 × 6)	6
37	731-3006-80	Tap tight (M3 × 6)	13
38	732-3012-11	Sems screw (M3 × 12)	4
39	285-0656-00	Guide label	1
40	286-4501-00	Set plate	1
41	285-0838-01	Guide label	1
42	001-0273-02	LED	2
43	335-0950-00	Lead cap	1
44	001-0273-00	LED	1